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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,720

09/14/2005

Andre Wacinski

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EXAMINER

EDGAR, RICHARD A

ART UNIT

PAPER NUMBER

3745

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/527,720

Applicant(s)

WACINSKI, ANDRE

Examiner

Richard Edgar

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/11/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to under PCT Rule 11.13(b). Fig. 6 does not utilize cross-hatching.

Claim Objections

Claims 15-18 are objected to because of the following informalities:

Each of claims 15-18 utilizes the Greek symbol for alpha. The examiner suggests Applicant either delete the drawing symbol or replace it with the English equivalent "alpha."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of claims 5, 11 and 12 recite the pronoun "it", but one skilled in the art cannot determine which noun the pronoun is substituting.

Claim 14 requires the rotation diameter of the first propeller to be "inferior" to that of the second propeller. One skilled in the art cannot determine how a diameter is inferior to another.

Claims 6-10, 13 and 14-19 depend from at least one of indefinite claims 5, 11 or 12, and are therefore indefinite themselves.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 11-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 5,054,998 (Davenport hereinafter) in view of United States Patent No. 2,153,523 (Roberts et al. hereinafter).

Davenport shows in FIG. 6 and 7 a drive device for counter rotating propellers. The drive device comprises as seen in FIG. 7, an epicycloidal multiplier comprising a crown wheel 96, a train of planetary wheels 94, and a solar wheel 92. The solar wheel 92 is coupled to the power-producing portion 32b of the engine; the planetary wheels 94 are coupled to the first propeller 24b; and the crown wheel 96 is coupled to the second

propeller 26b. The transmission is housed within the hub of the second propeller 26b (see FIG. 6). The shaft coupling the second propeller 26b and the crown wheel is hollow and has disposed coaxially therein, the coupling between the first propeller 24b and the planetary wheels 94. The longitudinal axis of each propeller 24b, 26b is curved and as see in FIG. 4, produces different aerodynamic characteristics when operating in the thrust-reversing mode (see col. 7, lines 19-26).

Davenport does not show the device being used in a wind turbine whereby the solar wheel drives an electric generator; and the aft propeller has a larger diameter than the forward propeller.

Roberts et al. teach a wind turbine having counter-rotating propellers for the purpose of effectively doubling the relative speed of the armature 14 and coils 11 (see column 2, lines 6-11). Also, the downstream propeller 12 is taught as having a larger diameter than the upstream propeller for the purpose of exposing the downstream propeller to unimpeded air currents, thereby giving both propellers substantially the same power (column 2, lines 11-17).

Therefore, since Davenport shows counter rotating propellers, and Roberts disclose counter rotating propellers for a wind turbine, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the Davenport invention to be used in a wind turbine, as taught by Roberts et al. for the purpose of harnessing wind energy. Furthermore, it would have been obvious to modify the forward and aft propellers of Davenport so that the aft propeller has a larger diameter than the forward propeller, as taught by Roberts et al. for the purpose of

exposing the downstream propeller to unimpeded air currents, thereby giving both propellers substantially the same power.

Claims 1, 3, 5, 11-13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 4,642,029 (Cedoz hereinafter) in view of United States Patent No. 2,153,523 (Roberts et al. hereinafter).

Cedoz show a braking mechanism 42 for counter rotating propellers, wherein a epicycloidal multiplier 34,30,26 is coupled to the propellers 16, 18 such that the crown wheel 34 is coupled to the aft propeller 18; the train of planetary wheels 30 is coupled to the forward propeller 16; and the engine 12 is coupled to the solar, or sun wheel 26. The coupling 36 for the forward propeller 16 is housed within the hollow coupling 40 for the aft propeller 18. The braking system 42 simultaneously acts on the propeller shafts (see col. 1, lines 38-43).

Cedoz does not teach the apparatus being used on a wind turbine having a driven electric generator.

Roberts et al. teach a wind turbine having counter-rotating propellers for the purpose of effectively doubling the relative speed of the armature 14 and coils 11 (see column 2, lines 6-11). Also, the downstream propeller 12 is taught as having a larger diameter than the upstream propeller for the purpose of exposing the downstream propeller to unimpeded air currents, thereby giving both propellers substantially the same power (column 2, lines 11-17).

Therefore, since Cedoz shows counter rotating propellers, and Roberts disclose counter rotating propellers for a wind turbine, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the Cedoz invention to be used in a wind turbine, as taught by Roberts et al. for the purpose of harnessing wind energy. Furthermore, it would have been obvious to modify the forward and aft propellers of Cedoz so that the aft propeller has a larger diameter than the forward propeller, as taught by Roberts et al. for the purpose of exposing the downstream propeller to unimpeded air currents, thereby giving both propellers substantially the same power.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 5,054,998 (Davenport hereinafter) in view of United States Patent No. 2,153,523 (Roberts et al. hereinafter) as applied to claim 12 above, and further in view of United States Patent No. 4,316,698 (Bertoia et al. hereinafter).

Davenport in view of Roberts et al. shows a wind turbine with blades rotating around a horizontal axis, however, do not teach the blades of the rotor being angled below 3 degrees relative to a plane perpendicular to the rotational axis.

Bertoia et al. teach the blades 11 of a horizontal axis wind turbine being arranged at a cone angle of about 5 degrees (see col. 1, lines 44-49); which by use of "about," flexibly includes 2 degrees as one having ordinary skill in the art appreciates.

Therefore, since Davenport in view of Roberts et al. show horizontal axis wind turbine blades, and Bertoia et al. teach to arrange the blades at a cone angle of about 5

Art Unit: 3745

degrees, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the blades of Davenport in view of Roberts et al. to be at a cone angle as taught by Bertoia et al. for the purpose of harnessing wind energy more effectively than with vertically extending blades.

Allowable Subject Matter

Claims 6-10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Cited Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. European Patent Application EP 1 717 489 A2 is cited for showing an epicycloidal-gear multiplier for a wind generator. United States Patent No. 2,653,250 is cited for showing an epicycloidal gear multiplier for a wind turbine.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Edgar whose telephone number is (571) 272-4816. The examiner can normally be reached on Monday thru Friday, 7 am- 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard Edgar/
Primary Examiner
Art Unit 3745

RE